Prevalence of Conjunctivitis among the Population of Kanyakumari District

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ABSTRACT

Introduction: Conjunctivitis is a common condition of the eye that occurs worldwide and affects all ages and social strata, affecting more than 2% of the population. It is caused by a variety of bacterial or viral pathogens but may also be caused by allergies, irritants or medications. Chlamydia eye disease is one of the earliest known eye infections. Viral conjunctivitis is a common, highly contagious disease that is often caused by an adenovirus. PCR-RFLP method is applied directly to conjunctival scrapings from patients with symptoms of conjunctivitis and serves as an accurate and rapid method of diagnosing adenoviral conjunctivitis. The objectives were to find out the most common organism responsible for the causation of conjunctivitis, to find the preponderance or affection of the eyes in conjunctivitis and to find the group which is affected the most (rural or urban/male or female).

Material and methods: The study design is cross sectional study. The study period is from January 2016 to February 2017.The study place is RHTC Marapadi.The sample size is (4PQ/d²)172. Systematic random sampling techniques are used. Institutional ethical committee clearance was obtained.

Result: Prevalence of bacterial conjunctivitis is found to be 68.1%.Affection of both eyes due to conjunctivitis is 51.7%. Conjunctivitis among rural residents is 59% when compared to urban residents which are 34.66%.Conjunctivitis among males is found to be 59.4% whereas it is 40.6% among females. Percentage of individuals with PCR positive for adenoviral conjunctivitis is 53.37%.

Conclusion: From the study it is observed that the prevalence of bacterial conjunctivitis is more common than any other organism.

Keywords: Conjunctivitis, Adenovirus, Bacterial, Chlamydia.

INTRODUCTION

Conjunctivitis is a common condition of the eye that occurs worldwide and affects all ages and social strata, affecting more than 2 percent of the population. It is caused by a variety of bacterial or viral pathogens but may also be caused by allergies, irritants or medications. Most types are self-limiting, but some may progress and cause serious complications.[1]

Chlamydia eye disease is one of the earliest known eye infections.[2] Most victims of trachoma live in underdeveloped and poverty-stricken countries.[2] Viral conjunctivitis is a common, highly contagious disease that is often caused by an adenovirus[3] .In general, viral conjunctivitis is diagnosed based on clinical features alone. Laboratory confirmation of the diagnosis can aid physicians in rapidly initiating suitable hygienic measures and determining the epidemiological significance of the infection.[3]

PCR-RFLP method is applied directly to conjunctival scrapings from patients with symptoms of conjunctivitis and serves as an accurate and rapid method of diagnosing adenoviral conjunctivitis.[4] Conjunctivitis with adequate treatment usually heals completely. Males are more affected and affection of both eyes is more common in conjunctivitis. Conjunctivitis is more among underdeveloped and poverty-stricken countries.[2]

The objective was to find out the most common organism responsible for the causation of Conjunctivitis, to find the preponderance or affection of the eyes in conjunctivitis and to find the group which is affected the most(rural or urban/male or female).

MATERIAL AND METHODS

Study design was a cross sectional study. Study period was from January 2016 to February 2017 and was conducted in Rural Health and Training centre, Marappadi of Sree Mookambika Institute of Medical Sciences. Sample size was (4pq/d²)172.[3] Inclusion criteria: people residing in RHTC Marappadi. Exclusion criteria: those who are not willing. Sampling technique was systematic and random sampling. It was a field study where swabs were collected for investigation. It was sent to laboratory for diagnosis of organisms of conjunctivitis. Institutional ethical committee clearance and informed consent from the subjects was obtained before the start of study.

STATISTICAL ANALYSIS

Data was entered in Microsoft Excel version 2016. Statistical analysis was done using SPSS trial version 21.0.

RESULT

Prevalence of bacterial conjunctivitis was 68.1% and of chlamydial conjunctivitis was 30.63%. Prevalence of viral conjunctivitis was 55.2%. Prevalence of fungal conjunctivitis was 35.33%. Percentage of conjunctivitis due to Staphylococcus aureus was 55.93%.Percentage of conjunctivitis due to coagulase negative staphylococci was 28%.Affection of one eye in conjunctivitis was 46.96%. Affection of both eyes in conjunctivitis was 51.7%. Conjunctivitis among rural residents was 59%.Conjunctivitis among urban residents was 34.66%. People with symptoms of conjunctivitis for the first time was 55.33%.People with recurrent symptoms was 26.70%. Percentage of males affected by conjunctivitis was 59.4%. Percentage of females affected by conjunctivitis was 40.6%. Percentage of individuals with PCR positive for adenoviral

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conjunctivitis was 53.37%.

DISCUSSION

Prevalence of bacterial conjunctivitis in present study is 65% whereas it was 5.7% in Maha Abdelrahman[2] study and 93.7% in Salako[5] study. Prevalence of chlamydial conjunctivitis in present study is 42% whereas it is 31% in Maha Abdelrahman[2] study and 18.8% in Malathi[6] study.

Prevalence of viral conjunctivitis in present study is 49.6% whereas it was 57% in Koki Aoki[7] study and 59% in Roberto Damian Pacheco Pinto[3] study. Prevalence of fungal conjunctivitis in present study is 32% whereas it was 48% in Uma Maheshwari[8] study and 26% in Namitha[9] study. Percentage of conjunctivitis due to Staphylococcus aureus is 68.9% in present study and it was 74.9% in Salako[5] study and 24% in Uma Maheshwari[8] study. Percentage of conjunctivitis due to coagulase positive Staphylococci is 30.8% in present study and it was 10.2% in Salako[5] study and 43% in Uma Maheshwari[10] study.

Affection of one eye in conjunctivitis is 42% in present study and in study of Maha Abdelrahman[2] it was 21.9% and 77% in Rietveld[10] study. Affection of both eyes in conjunctivitis is 36% in present study and in study of Maha Abdelrahman[2] it was 78.1% and 41% in Rietveld study.

Conjunctivitis among rural residents is 62.4% in present study whereas it was 70% in study of Maha Abdelrahman[2] and 44.6% in Rietveld[10] study. Conjunctivitis among urban residents is 46% in present study whereas it was 30% in study of Maha Abdelrahman[2] and 28% in Rietveld[8] study.

People with symptoms of conjunctivitis for the first time is 39.2% in present study and in study of Maha Abdelrahman[2] it was 50.7% and 76.1% in Rietveld[10] study. People with recurrent symptoms are 24.4% in present study and in study of Maha Abdelrahman[2] it was 49.3% and 30.8% in Rietveld[8] study. Percentage of males affected by conjunctivitis is 56% in present study and it was 59.2% in Salako[5] study and 63% in Maha Abdelrahman[2] study.

Percentage of females affected by conjunctivitis is 44% in present study and it was 40.8% in Salako[5] study and 37% in Maha Abdelrahman[2] study. Percentage of individuals with PCR positive for adenoviral conjunctivitis is 46.8% in present study whereas it was 59.01% in Robert Damian Pacheco[3] study and 54.3% in Waka Saitoh Ingawa[4] study.

limitation

The study cannot be generalized since it is done in only one area of Kanyakumari District.

CONCLUSION

From the study it is observed that the prevalence of bacterial conjunctivitis is more common than any other organism. Staphylococcus aureus is found to be the most common bacteria responsible for causing conjunctivitis. Rural residents are more affected than urban residents. Affection of both eyes is found to be more common than that of single eye. Males are found to have higher prevalence of conjunctivitis than females. More number of studies must be conducted using large geographical area.

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